

CLAIMS

What is claimed is:

- 1 1. A method of texture filtering, comprising the steps of:
 - 2 receiving input information relating to polygon and texture data; and
 - 3 morphing a texture reconstruction filter characteristic based upon the input
 - 4 information so that after subsamples are aggregated, an effective filter characteristic
 - 5 matches the texture reconstruction filter characteristic of a texture reconstruction filter
 - 6 used for coarse sampling.
- 1 2. The method of claim 1 wherein the input information relates to a rate of
- 2 sampling of the polygon data.
- 1 3. The method of claim 1 wherein the input information relates to a degree of
- 2 warping per texture coordinate.
- 1 4. The method of claim 1 wherein the effective filter characteristic matches the
- 2 characteristic of a bilinear filter.
- 1 5. The method of claim 1 wherein the effective filter characteristic matches the
- 2 characteristic of a combination of a bilinear filter and a box filter.
- 1 6. The method of claim 1 wherein the effective filter characteristic matches the
- 2 characteristic of a combination of a linear filter between MIP levels and a combination
- 3 of a bilinear filter and a box filter.
- 1 7. The method of claim 1 wherein the morphing of the texture reconstruction filter
- 2 characteristic is performed in a continuous manner.
- 1 8. The method of claim 1 wherein the morphing of the texture reconstruction filter
- 2 characteristic is determined by a value $\beta = \min(\delta * (n-1)/n, 1.0)$ wherein δ is a degree of
- 3 warping per texture coordinate and n is a sampling rate of the polygon data.

1 9. An electronically-readable medium having embodied thereon a program, the
2 program being executable by a machine to perform method steps for texture filtering,
3 the method steps comprising:

4 receiving input information relating to polygon data and texture data; and
5 morphing a texture reconstruction filter characteristic based upon the input
6 information so that after subsamples are aggregated, an effective filter characteristic
7 matches the texture reconstruction filter characteristic of a texture reconstruction filter
8 used for coarse sampling.

1 10. The electronically-readable medium of claim 9 wherein the input information
2 relates to a rate of sampling of the polygon data.

1 11. The electronically-readable medium of claim 9 wherein the input information
2 relates to a degree of warping per texture coordinate.

1 12. The electronically-readable medium of claim 9 wherein the morphing of the
2 texture reconstruction filter characteristic is performed in a continuous manner.

1 13. An apparatus for texture filtering, comprising:
2 a first module adapted to detect a sampling rate n of polygon data;
3 a second module coupled to the first module adapted to select a filtering mode
4 based upon a sampling rate n of polygon data and a degree of warping δ per texture
5 coordinate; and
6 a third module coupled to the second module adapted to compute texel blending
7 factors based on the filtering mode determined by the second module.

1 14. The apparatus of claim 13 wherein the second module selects a filtering mode
2 based upon a value $\beta = \min(\delta * (n-1)/n, 1.0)$.

1 15. The apparatus of claim 13 further comprising a fourth module coupled to the
2 third module adapted to detect a degree of warping δ per texture coordinate.

1 16. An apparatus for texture filtering comprising:
2 a filter select module adapted to select a filtering mode based upon a sampling
3 rate n of polygon data; and
4 a texel blending module coupled to the filter select module adapted to compute
5 texel blending factors based on the filtering mode determined by the filter select
6 module.

1 17. The apparatus of claim 16 wherein the filter select module determines a filter
2 characteristic of a selected filtering module based upon the sampling rate n and a
3 degree of warping δ per texture coordinate.

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1 18. The apparatus of claim 16 wherein the filter select module selects the filtering
2 mode based upon a value $\beta = \min(\delta * (n-1)/n, 1.0)$.

1 19. An apparatus for texture filtering, comprising:

means for receiving input information relating to polygon data and texture data;

3 and

means for morphing a texture reconstruction filter characteristic based upon the input information so that after subsamples are aggregated, an effective filter characteristic matches the texture reconstruction filter characteristic of a texture reconstruction filter used for coarse sampling.